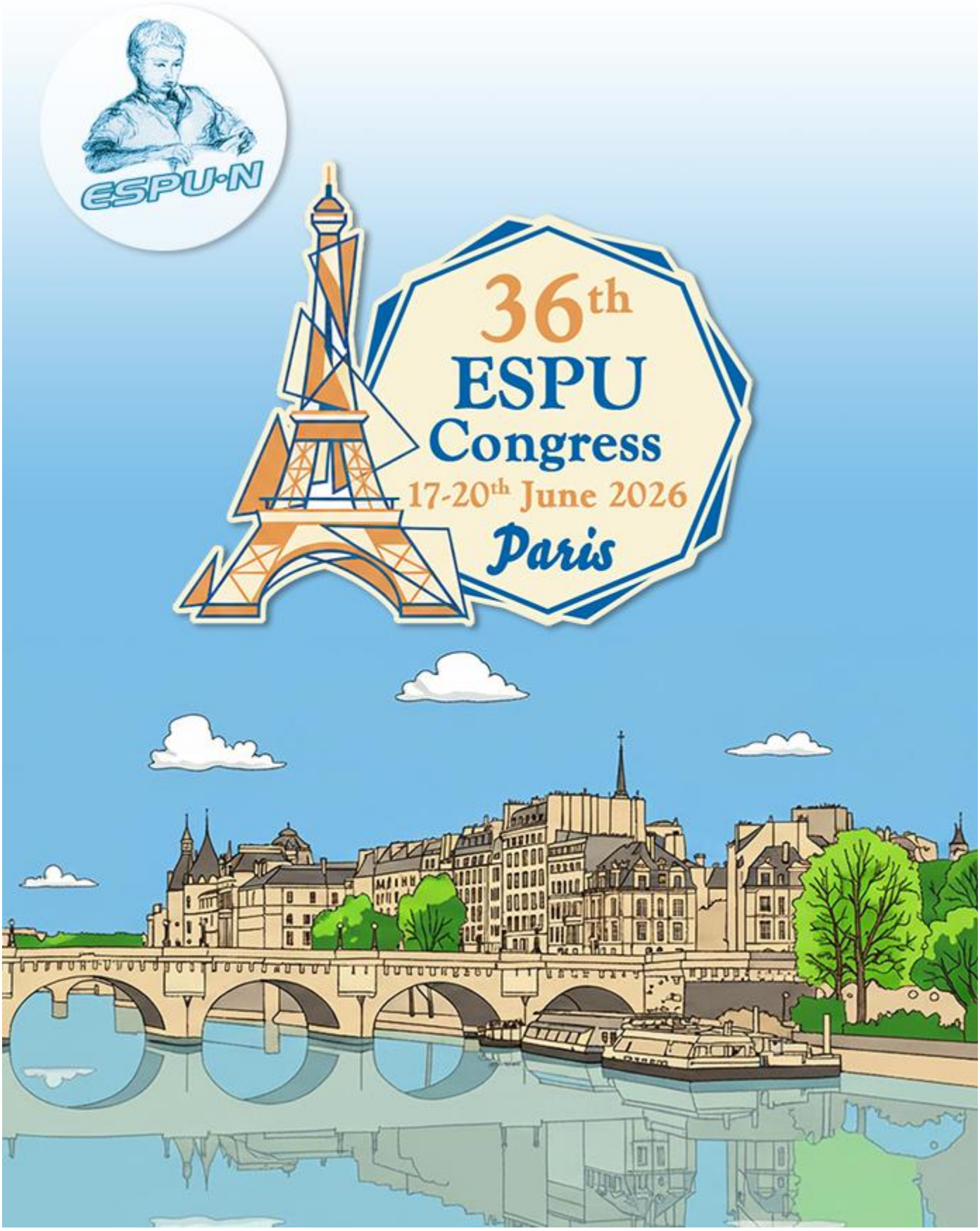
# Nurses Abstracts Book



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# SN01: NEUROPATHIC BLADDERS

*Moderators: Sarah Boulby (UK), Prof. Martin Kaefer (US)*

**ESPU-Nurses Meeting on Wednesday 17, June 2026, 15:10 - 15:50**

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*15:10 - 15:20*
**SN01-1** (NP)

## ★ UROLOGICAL CARE IN SPINA BIFIDA: REASSESSING PARENT INFORMATION IN THE ERA OF ARTIFICIAL INTELLIGENCE

Jonathan AICHNER [1], Susan MAESTRI [2], Ailsa FERRIE [1], Divyesh DESAI [1] and Ganesh VYTHILINGAM [1]
*1) Great Ormond Street Hospital, Paediatric Urology, London, UNITED KINGDOM - 2) Great Ormond Street Hospital, Urodynamics, London, UNITED KINGDOM*

**PURPOSE**

Accurate parental education is essential in the care of children with spina bifida, particularly for bladder management and long-term renal preservation. AI-based platforms are increasingly shaping how families obtain information, often beyond clinicians' control. This study examined parental use of online resources and assessed the continued relevance of traditional patient information leaflets.

**MATERIAL AND METHODS**

A quaternary centre-specific, expert-validated patient information leaflet was mailed to 209 families, who were invited to complete a 25-item online survey evaluating leaflet clarity, usefulness and emotional support, alongside patterns of online and AI-based information use.

**RESULTS**

Nineteen families participated in the study. The leaflet handed out was rated easy to understand by 89.5% of parents, and 94.7% reported that it improved their understanding of urological care. Emotional concerns were addressed for 94.7% of families, and 94.7% considered the leaflet essential for spina bifida care. Although 84.2% of families used online resources, only 10.5% used AI-based tools such as ChatGPT. Despite online usage, 84.2% found the printed leaflet more helpful and 68.4% felt more reassured by it than by online information. Printed leaflets were considered the most accurate information source by 89.5%, and 94.7% identified the leaflet as essential for families taking care of children with spina bifida.

**CONCLUSIONS**

Parents of children with spina bifida continue to rely on clear, institution-specific patient information leaflets, which they perceive as more reliable and clinically relevant than generic online or AI-generated sources. These findings support the ongoing development of high-quality, centre-specific leaflets in either printed or digital formats.

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*15:20 - 15:30*
**SN01-2** (NP)

# INTEGRATED UROTHERAPY AND INTERMITTENT CATHETERISATION TRAINING IN PAEDIATRIC NEUROGENIC BLADDER: MULTIDISCIPLINARY IMPACT ON CONTINENCE, BOWEL FUNCTION AND CATHETERISATION SAFETY

Cristian SAGER, Yesica GOMEZ, Carol BUREK, Eliana PONCINI, Javier RUIZ, Nicolas ROSIER, Danel ALBERTI, Otilia BLAIN, Ignacio ARENAS, Francisco IMAZ, Felicitas LOPEZ IMIZCOZ and Santiago WELLER
*Garrahan Hospital, Urology, Buenos Aires, ARGENTINA*

**PURPOSE**

Children with neurogenic lower urinary tract dysfunction (NLUTD) due to spinal dysraphism require lifelong bladder and bowel management. Clean intermittent catheterisation (CIC) is the gold standard, yet adherence is influenced by internal and external barriers, caregiver burden and insufficient training. Evidence suggests that multidisciplinary, education-centred programmes improve independence, continence and safety in CIC users. This study evaluates the impact of an integrated urotherapy-CIC programme on urinary and bowel outcomes in paediatric NLUTD.

**MATERIAL AND METHODS**

Children with spinal dysraphism enrolled in a multidisciplinary bladder-bowel programme (2022-2024) were retrospectively reviewed. Inclusion criteria: NLUTD on CIC. Exclusion: non-neurogenic dysfunction or absence of CIC. The programme included standard urotherapy, pelvic/postural physiotherapy, nurse-led CIC/auto-CIC training or retraining, voiding diaries, Bristol stool scale and Rome IV criteria. Constipation was defined as Bristol 1-2 and <3 stools/week from age ≥4; faecal incontinence as >3 weekly episodes from age ≥6. Data were collected using REDCap. Descriptive statistics and chi-squared testing were performed (Stata 18).

**RESULTS**

A total of 189 children were included (84% myelomeningocele; mean age 7.6 years; 50% female). CIC was performed via urethra in 95% and via stoma in 5%. Catheter reuse occurred in 45%. CIC frequency averaged 3-4/day (44%), with nocturnal indwelling catheters in 21% under age 3. Constipation affected 27%, and faecal incontinence 50%.
At enrolment: first-time CIC training (21%), retraining (39%) and auto-CIC (40%). Retraining was required due to incorrect technique (62%), resistance (16%), limited time (7%) or lack of resources (9.6%).
After integrated urotherapy, CIC frequency increased (34→42%), constipation decreased (22%) and faecal incontinence reduced (33%). Auto-CIC rose to 45%. CIC complications declined: UTI (26→15%) and urethrorrhagia (5.4→4.7%), with no false passages or catheter knotting. Girls had more constipation (p=0.040) yet longer dry intervals (p=0.026). CIC ≥4/day was associated with continence (p=0.05). Retraining was strongly associated with CIC <4/day (p=0.000). Lubricated catheters were associated with higher continence rates (p=0.005).

**CONCLUSIONS**

A structured, multidisciplinary urotherapy-CIC programme improved catheterisation frequency, autonomy, bowel status and CIC-related complications. These findings reinforce the value of interdisciplinary training models in paediatric NLUTD.

*15:30 - 15:40*
**SN01-3** (NP)

# EARLY UROLOGIC OUTCOMES AFTER PRENATAL VS POSTNATAL MYELOMENINGOCELE REPAIR: A SINGLE-CENTRE RETROSPECTIVE STUDY

Sahrish MASOOD, Usman KAHLOON, Abby VARGHESE, Joana DOS SANTOS and Michael CHUA
*The Hospital For Sick Children, Division of Urology, Toronto, CANADA*

## PURPOSE

Myelomeningocele (MMC) is associated with early neurogenic bladder and bowel dysfunction and long-term risks to renal health. Although postnatal closure remains standard, prenatal repair has been introduced with the goal of improving neurological and functional outcomes. Its early urologic impact, however, remains unclear.

## MATERIAL AND METHODS

This retrospective single-centre chart review, with institutional approval (REB #1000077457), included all children with MMC who underwent surgical repair up to the end of 2024. Variables included demographics, repair type and urological outcomes. Comparisons between groups were performed using Fisher's Exact test.

## RESULTS

Baseline sex distributions was similar between groups. Clean intermittent catheterization was more common after prenatal repair (100% vs 75%, p=0.02). Bowel and bladder incontinence therapies were used at comparable rates. Early bladder trabeculation did not different, although later imaging showed a trend toward higher trabeculation in the prenatal group (38% vs 13%, p=0.06). Medication use was similar except for beta-blockers (83% vs 47%, p=0.01). Renal imaging findings showed no difference in hydronephrosis; however, prenatal repair was associated with higher early vesicoureteral reflux confirmed by imaging (43% vs 9%, p=0.01), while later reflux rates were similar. UTI rates were comparable, as well as mobility support needs.

| Baseline Variable | Prenatal (n=18) | Postnatal (n=60) | p-value |
|---|---|---|---|
| Sex, N (%) | | | 0.19 |
| Male | 6 (33) | 31 (52) | |
| Clean Intermittent Catheterization, N (%) | | | 0.02 |
| Yes | 18 (100) | 45 (75) | |
| Self-catheterization, N (%) | | | 0.08 |
| Yes | 2 (11) | 21 (35) | |
| Bowel Treatment, N (%) | | | 0.77 |
| Yes | 14 (78) | 43 (72) | |
| Botox Injection, N (%) | | | 0.41 |
| Yes | 8 (44) | 20 (33) | |
| Bladder Trabeculation (Early), N (%) | | | 0.31 |
| Yes | 5 (31) | 10 (19) | |
| Bladder Trabeculation (Latest), N (%) | | | 0.06 |
| Yes | 6 (38) | 5 (13) | |

| | | | |
|---|---|---|---|
| Mitrofanoff present, N (%) | | | 0.44 |
| Yes | 1 (6) | 10 (17) | |
| Urinary Tract Infection, N (%) | | | 0.42 |
| Yes | 10 (56) | 26 (43) | |
| Anticholinergic, N (%) | | | 0.59 |
| Yes | 8 (44) | 33 (55) | |
| Alpha-blocker, N (%) | | | 0.33 |
| Yes | 1 (6) | 8 (13) | |
| Beta-blocker, N (%) | | | 0.01 |
| Yes | 15 (83) | 28 (47) | |
| Hydronephrosis (Earliest), N (%) | | | 0.13 |
| Yes | 3 (19) | 3 (6) | |
| Hydronephrosis (Latest), N (%) | | | 0.19 |
| Yes | 2 (12) | 1 (3) | |
| VCUG Reflux (Earliest), N (%) | | | 0.01 |
| Yes | 6 (43) | 4 (9) | |
| VCUG Reflux (Latest), N (%) | | | 0.58 |
| Yes | 2 (25) | 2 (12) | |
| Mobility Support, N (%) | | | 0.40 |
| Yes | 10 (56) | 41 (68) | |

**CONCLUSIONS**

Prenatal MMC repair did not demonstrate an early urologic advantage in this cohort and appears to follow a clinical trajectory similar to postnatal repair. Given the higher proportion of prenatal repair patients who require beta-agonists, it seems appropriate that our institution initiates CIC for all prenatal repair patients.

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*15:40 - 15:50*
**SN01-4** (NP)

## AN ALTERNATIVE AND EFFECTIVE METHOD IN THE MANAGEMENT OF MITROFANOFF CHANNEL STRICTURE: USE OF DORSAL ONLAY ORAL MUCOSAL GRAFT

Tugce Merve ORBAY ERECAN, Merve DEDE, Aysegul AKBULUT, Mehmet Ugur YILMAZ and Nizamettin KILIC
*Uludag University Faculty of Medicine, Pediatric Urology, Bursa, TÜRKIYE*

**PURPOSE**

Mitrofanoff channel strictures are clinically significant postoperative complications following the Mitrofanoff procedure and frequently results in difficulty with catheterization and repeated interventions. Although several

surgical strategies exist for managing mitrofanoff strictures, recurrent strictures remains challenging and may necessitate innovative reconstructive approaches. This study reports the successful use of an oral mucosal graft in the managing of an approximately 2 cm long mitrofanoff channel stricture located just below the VQZ stoma.

## MATERIAL AND METHODS

A 12-year-old girl with spina bifida, hypocompliant low bladder capacity, and bilateral vesicoureteral reflux had previously undergone ileocystoplasty with creation of a Mitrofanoff channel and sling procedure. At postoperative month six, she presented with inability to perform clean intermittent catheterization. Cystoscopy demonstrated an approximately 2-cm stenotic segment just below the VQZ stoma. Serial percutaneous dilations were performed; however, the stenosis recurred, necessitating two additional dilation sessions. Repeat cystoscopy confirmed a persistent 2-cm stenosis and we decided an open surgical repair.

A midline incision of approximately 4 cm was made, preserving and keeping the VQZ orifice intact. The narrowing segment of the Mitrofanoff channel was circumferentially mobilized, and partially rotated and a 2 cm vertical incision was made on the dorsal surface of the stricture and the lumen exposed. A 2 × 1.5 cm oral mucosal graft harvested from the lower lip was sutured to the margin of the mitrofanoff mucosal opening and narrowed segment was augmented. The lumen was calibrated over a 12 fr catheter. All steps were recorded with photographs.

## RESULTS

The catheter was removed at 21th day postoperatively. The patient subsequently resumed clean intermittent catheterization without difficulty. No restenosis, leakage, or procedure-related complications were observed during follow-up.

## CONCLUSIONS

Oral mucosal grafting represents a feasible and effective alternative for the managing continent catheterizable channel stricture following the Mitrofanoff procedure. Its favorable tissue compatibility and robust epithelialization render it suitable for reconstructing stenotic segments. Surgical expertise and individualized approach to the patient and case remain key determinants of optimal outcomes in these complex revisions.

# SN02: LUTD

*Moderators: Ananda Nacif (Brazil), Dr. Cristian Sager (Argentina)*

**ESPU-Nurses Meeting on Wednesday 17, June 2026, 15:50 - 16:40**

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*15:50 - 16:00*
**SN02-1** (NP)

## "BIOFEEDBACK VS. METHYLPHENIDATE: EVALUATION OF THERAPEUTIC EFFECTIVENESS IN PEDIATRIC GIGGLE INCONTINENCE.

Ruiz Albarran RUIZ ALBARRAN [1], Isabel CASAL BELOY [2], Rosa Maria ROMERO RUIZ [2], Ana ACEMEL [2] and Ana FERNANDEZ GOMEZ [2]
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**PURPOSE**

Giggle incontinence (GI) is an uncommon clinical entity within lower urinary tract dysfunctions, characterized by a complete involuntary voiding triggered by intense laughter. It is a poorly understood condition with no established standard treatment. Few studies have evaluated the effectiveness of methylphenidate (M group, M-G) or biofeedback (BFB group, BFB-G) as therapeutic options. The aim of this study was to compare the effectiveness of both approaches in patients with GI.

**MATERIAL AND METHODS**

Prospective study of patients with GI treated between 2023 and 2025. Two cohorts were compared based on the treatment received: M-G or BFB-G. Methylphenidate was administered in an extended-release formulation (18 mg/24 h), with dose adjustments according to clinical response, for an average of 6 months. BFB (pelvic floor strengthening) was delivered over 6-7 sessions lasting 30-40 minutes each, spaced 1-3 weeks apart, and supplemented with home exercises. Response was classified as complete (resolution or ≤1 episode/month), partial (50-99% reduction), or absent (<50%), according to the definitions proposed by the International Children's Continence Society (ICCS). Relapse was defined as >1 weekly episode after initial improvement.

**RESULTS**

We included 20 patients (65% girls): 11 in BFB-G and 9 in M-G. Mean age was 11.8 years. Twenty-five percent had a family history of GI. Therapeutic adherence was higher with BFB-G (90.9% vs. 66.7%, p=0.28). The overall response rate (complete + partial) was significantly higher in BFB-G (100% vs. 50%; p=0.02), as was the complete response rate (60% BFB vs. 0%). Adverse effects were more frequent in the M-G(22.2% vs. 0%, p<0.05). At mid-term follow-up, 50% of patients treated with BFB discontinued home exercises, and relapse occurred in two of them.

**CONCLUSIONS**

BFB is a safe and effective treatment for pediatric GI and should be considered first-line therapy. Relapses occurred exclusively in patients who discontinued home exercises, underscoring the importance of long-term adherence.

*16:00 - 16:10*
**SN02-2** (NP)

# CHARACTERISTICS ASSOCIATED WITH FAILURE OF OUTPATIENT SENS-U THERAPY AND TRANSITION TO INPATIENT UROTHERAPY IN CHILDREN WITH DAYTIME URINARY INCONTINENCE

Tinne RUSTICUS [1], Eline VAN DE WETERING [2], Martine KOOIJ-VAN GENT [3] and Anka NIEUWHOF-LEPPINK [4]
*1) Vrije Universiteit Amsterdam, Health and Life Sciences, Amsterdam, NETHERLANDS - 2) Radboud University Medical Center, Urology, Nijmegen, NETHERLANDS - 3) University Medical Center Utrecht, Urotherapy, Psychology and Urology, Utrecht, NETHERLANDS - 4) Wilhelmina Children's Hospital (Part of UMCU), Urotherapy, psychology & urology, Utrecht, NETHERLANDS*

**PURPOSE**

Daytime urinary incontinence (DUI) is a common condition in children that is caused by lower urinary tract dysfunction (LUTD). The first-line treatment is standard urotherapy, but at a third-line referral center children can receive a more intensive 10-day inpatient treatment. A SENS-U bladder sensor was developed to help children recognize a full bladder and there is still a trial ongoing to test this device. Although standard urotherapy and the SENS-U have shown promising results, some children still require intensive inpatient treatment. This study aimed to identify which clinical and demographic characteristics are associated with failure of the SENS-U trial and the subsequent need for a 10-day inpatient training program.

**MATERIAL AND METHODS**

This cross-sectional study used the baseline data from the multicenter randomized controlled SENS-U trial. Children aged 6-16 years with functional DUI who were enrolled in a third-line referral center were included. Baseline variables were age, sex, behavioral problems or developmental disorders, LUTD (sub)diagnosis, constipation, number of wetting accidents per week and the use of the SENS-U device. Univariable analyses, t-tests and chi-square, were done and variables with $p<0.15$ were entered into the multivariable forward logistic regression.

**RESULTS**

A total of 49 children were included and 22 achieved success with just outpatient urotherapy combined with the SENS-U device. The other 27 needed inpatient training. Multivariable logistic regression identified two statistically significant characteristics: Sex and the number of wetting accidents per week. Being female was associated with lower odds of treatment failure (OR=0.229, 95% CI=0.055-0.958, p=0.043) and additional wetting accidents were associated with higher odds of failure (OR=1.204, 95% CI=1.012-1.432, p=0.036).

**CONCLUSIONS**

Children who experience more frequent wetting accidents, especially boys, are more likely to need an intensive urotherapy program. These findings highlight the need for larger studies to identify additional predictors and determine the most appropriate type of urotherapy in order to treat DUI effectively.

*16:10 - 16:20*
**SN02-3** (NP)

# HOME TRAINING PROTOCOL FOR PEDIATRIC CLEAN INTERMITTENT CATHETERISATION (CIC): A NURSE-LED PRACTICE-DEVELOPMENT ANDEVALUATION PLAN

Carmine CREAZZO and Marina GRISSINO
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**PURPOSE**

Clean intermittent catheterisation (CIC) is an essential self-care or caregiver-assisted skill for children and adolescents withneurogenic bladder or chronic urinary retention. Inadequate training, poor adherence, and anxiety frequently lead to complicationsand reduced quality of life. The aim of this project is to design, implement and evaluate a structured nurse-led home training protocolfor paediatric CIC, targeting both caregivers and older children capable of self-catheterisation, to enhance competence, safety, andconfidence in the home setting.

**MATERIAL AND METHODS**

A multi-component training protocol was developed including: (1) an educational booklet and step-by-step checklist; (2) a practicalsession using paediatric simulation manikins; (3) access to brief video tutorials for home reference; (4) a take-home kit with materialsfor practice; and (5) structured follow-up (telephone call within 72 h, clinic review after 2 weeks, and tele-consultation at 3 months).
The target population includes caregivers and patients aged 0-18 years prescribed CIC at discharge from the urodynamics clinic.Evaluation will combine quantitative and qualitative data: objective skills assessment (competency checklist), self-efficacyquestionnaires (for caregivers and self-catheterising adolescents), adherence monitoring (missed catheterisations), and catheter-related complications (UTIs, urethral trauma). Data will be collected prospectively and analysed descriptively, with pre/postcomparisons.

**RESULTS**

This abstract presents the design and evaluation framework of the project. A pilot implementation is underway to assess feasibility,acceptability, and short-term outcomes. Results will include participant competence, self-efficacy scores, adherence rates, and earlycomplication data.

**CONCLUSIONS**

A structured, nurse-led home training programme for caregivers and patients can enhance confidence, safety, and adherence inpaediatric CIC management. The protocol is designed to be replicable in other paediatric urology settings and promotes theadvancement of nurse-led education and family-centred care in continence management.

*16:20 - 16:30*
**SN02-4** (NP)

# THE COMBINED IMPACT OF BLADDER AND BOWEL DYSFUNCTION AND DEVELOPMENTAL COORDINATION DISORDER ON CHILDREN'S WELL-BEING

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**PURPOSE**

Both bladder and bowel dysfunction (BBD) and developmental coordination disorder (DCD) are common in school-aged children and may influence daily functioning and quality of life (De Roubaix et al., 2025). This study explored the well-being of fourth- to sixth-grade children to determine whether the presence of BBD, probable DCD or the combination of both affects their overall well-being.

**MATERIAL AND METHODS**

A cross-sectional cohort study was conducted in twelve regular elementary schools. Children completed the validated Dutch School-wellbeing questionnaire and parents completed the validated Dutch Vancouver Symptom Score for Dysfunctional Elimination Syndrome (VSSDES) and the Dutch Developmental Coordination Disorder questionnaire (DCD-Q) in regard to their child. Children were divided into four groups (No BBD or probable DCD; BBD present; probable DCD present; BBD and probable DCD present). Overall well-being as well as subcategories (engagement, satisfaction, academic self-concept, social relations and academic climate) were analysed across groups using Krusal-Wallis Tests.

**RESULTS**

Data from 171 children (49 % male, 9-12 years old) were included in the present study. The presence of BBD or probable DCD demonstrated a significant impact on overall well-being ($p = 0.006$), with lowest scores seen in children with both BBD and probable DCD. This impact on well-being was also seen in almost all subcategories, with lowest scores for children with both conditions for engagement, satisfaction, academic self-concept and academic climate. No significant differences were seen between children with only one condition (BBD or probable DCD), both on overall well-being and subcategories, nor were there significant differences between children with one condition and children with no condition present.

**CONCLUSIONS**

This study highlights that comorbidity between BBD and DCD negatively impacts children's well-being. Teachers should be aware of these conditions to better support affected students. Clinicians are encouraged to assess for comorbidities and provide individualized treatment addressing both bladder and bowel symptoms and associated developmental challenges.

*16:30 - 16:40*
**SN02-5** (NP)

# EFFECTIVENESS OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION FOR CHILDREN WITH FUNCTIONAL CONSTIPATION IN A TERTIARY CARE SETTING

Bieke SAMIJN [1], Fleur VANDER VENNET [2], Justine DESMYTTER [2], Stephanie VAN BIERVLIET [3], Barbara DE MUYNCK [4] and Saskia VANDE VELDE [3]
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**PURPOSE**

Functional constipation (FC) is a prevalent condition in paediatric populations. While standard therapies, including laxatives and toilet training, are commonly used, a substantial proportion of children exhibit an inadequate response. This study investigated the effectiveness of an at home sacral transcutaneous electrical nerve stimulation (TENS) treatment in children with functional constipation unresponsive to standard therapy.

**MATERIAL AND METHODS**

Children diagnosed with FC according to the Rome IV criteria and treated with TENS for 24 weeks were included in this retrospective cohort study. Data were collected in two tertiary hospitals between 2018 and 2024. Primary outcome measures included stool frequency, stool retention behaviour, faecal incontinence, and stool size. Statistical analyses included Wilcoxon signed rank and McNemar tests, incorporating post hoc comparison with Bonferroni correction.

**RESULTS**

A total of 36 children were included (median age 7.5 years; 61% male) of whom approximately one-third had a concomitant diagnosis of a neurodevelopmental disorder (NDD). 80 % of children presented with severe constipation, demonstrating ≥ 3 ROME IV criteria. Improvements were observed in faecal incontinence ($p = 0.016$; 75% pre vs 52 % post), retentive behaviour ($p = 0.001$; 53 % pre vs 19 % post), stool frequency (<2 bowel movements/week) ($p = 0.035$; 50 % pre vs 14 % post), and abdominal pain ($p = 0.006$; 56 % pre vs 19 % post). Retentive behaviour showed already an improvement after six weeks, with the most pronounced effect at six months. The other Rome IV criteria took more than six weeks to be influenced.

**CONCLUSIONS**

This study confirms that sacral Transcutaneous Electrical Nerve Stimulation is an effective and safe treatment option for children with functional constipation. The beneficial effects seemed to be present in both children with less severe and severe constipation. In addition, TENS may also offer a feasible alternative for children with neurodevelopmental disorders. These findings support the consideration of integrating TENS earlier in the therapeutic pathway for functional constipation, rather than limiting its use to refractory cases.

# SN03: MISCELLANEOUS 1

*Moderators: Nasra Ahmed (UK), Louiza Dale (UK)*

**ESPU-Nurses Meeting on Wednesday 17, June 2026, 16:40 - 17:40**

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*16:40 - 16:50*
**SN03-1** (NP)

## ★ LONG-TERM URINARY FUNCTION AFTER UROGENITAL SINUS SURGERY IN PATIENTS WITH DSD: A 30-YEAR SINGLE-CENTER EXPERIENCE

Hüseyin BILGI [1], Merve DEDE [2], Ayşegül AKBULUT [2], Tuğçe Merve ORBAY [2], Mehmet Ugur YILMAZ [2], Nizamettin KILIÇ [2] and Mehmet Emin BALKAN [2]
*1) Bursa Uludag University Faculty of Medicine, Pediatric Surgery, Nilufer, TÜRKIYE - 2) Bursa Uludag University Faculty of Medicine, Pediatric Urology, Nilufer, TÜRKIYE*

**PURPOSE**

Patients with differences of sex development (DSD) who present with a common urogenital sinus require individualized surgical reconstruction. While the anatomical and cosmetic outcomes of various techniques are well described, their long-term impact on urinary function remains insufficiently defined. This study aimed to evaluate urinary continence and voiding outcomes in a large DSD cohort and to determine whether the choice of surgical technique is associated with differences in lower urinary tract symptoms (LUTS).

**MATERIAL AND METHODS**

A retrospective review was conducted of 51 patients older than 5 years who underwent urogenital sinus surgery between 1990 and 2020. The mean age at follow-up was 18.8 ± 7.3 years. Diagnoses included congenital adrenal hyperplasia (66.7%), vaginal atresia (n=5), Müllerian agenesis (n=4), mixed gonadal dysgenesis/Turner variants (n=3), testicular feminization (n=1), imperforate hymen (n=1), and bifid vagina with vaginal atresia (n=1).

Surgical techniques included:

- Clitorovaginoplasty(n=20, 39.2%)
- Colovaginoplasty(n=10, 19.6%)
- Total Urogenital Sinus Mobilization (TUM)(n=9, 17.6%)
- Partial Urogenital Sinus Mobilization (PUM)(n=12, 23.5%)

Urinary function was assessed through validated questionnaires (CBBDQ, IBSS, ICIQ-SF123) and clinical evaluation of urinary symptoms. Statistical analyses included chi-square and Fisher–Freeman–Halton tests, with $p<0.05$ considered significant.

**RESULTS**

Most patients demonstratedpreserved urinary function:

- CBBDQ: 47.1% had “no or very mild symptoms”
- IBSS: 45.1% normal
- ICIQ-SF123: 49% mild symptoms

Clinically diagnosed lower urinary tract dysfunction (LUTD) was identified in 7 of 51 patients (13.7%). A substantial majority (86.3%) reportedno urinary symptoms, with enuresis, urgency, or daytime leakage occurring rarely (each ≤3.9%).

Across all surgical groups, there wereno statistically significant differencesin:

- LUTD rates,
- LUTD categories,
- Bladder capacity patterns,
- Questionnaire sub-scores.

All statistical tests yieldedp > 0.05, indicating thatno surgical technique demonstrated superiority or increased riskof urinary dysfunction.

**CONCLUSIONS**

Long-term urinary outcomes after urogenital sinus surgery in patients with DSD are generally favorable, withno significant differences among surgical techniques. These findings support the notion that the choice of surgical method may be guided primarily by anatomical considerations and genital reconstruction goals rather than concerns about long-term urinary function. This study represents one of the most comprehensive regional datasets on urinary outcomes following DSD surgery.

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*16:50 - 17:00*
**SN03-2** (NP)

## URETHRAL DUPLICATION IN CHILDREN: SINGLE-CENTER EXPERIENCE WITH 14 CASES

Aysegül AKBULUT [1], Merve DEDE [2], Tuğçe Merve ORBAY ERECAN [2], Mehmet Uğur YILMAZ [2], Nizamettin KILIÇ [2] and Mehmet Emin BALKAN [2]
*1) Uludag University Medical Faculty, Paediatric surgery /division of paediatric urology, Bursa, TÜRKIYE - 2) Bursa Uludag University Faculty of Medicine, Department of Pediatric Surgery Division of Pediatric Urology, Bursa, TÜRKIYE*

**PURPOSE**

Urethral duplication is a rare congenital anomaly with multiple anatomical variants and variable clinical presentations. Several surgical techniques have been described, but no single method is ideal. This study aimed to describe the characteristics, presentation, and management of a large single-center pediatric cohort.

**MATERIAL AND METHODS**

Medical records of 14 male patients treated for urethral duplication between 2014 and 2025 were reviewed retrospectively. Data included age, clinical presentation, Effman classification, surgical technique, number of procedures, and follow-up duration. Preoperative or intraoperative retrograde urethrography was used to determine the type of duplication.

**RESULTS**

All patients were male. Duplication types included: type IA (blind-ending midline channel, n=4), type IB (urethral-origin blind-ending channel, n=4), type IIA2 (two urethras from a common bladder neck, n=4), type IIA2-Y (ventral urethra opening in perineum, n=1), and one case of bifid glans with duplicate urethra not fitting Effman classification. Associated anomalies included penoscrotal hypospadias (n=5), subcoronal hypospadias (n=2), anorectal malformation (ARM, n=2), and vesicoureteral reflux (VUR, n=1). The mean number of surgical procedures was 2, with a mean follow-up of 5.2 years. Urethral duplication was incidentally found in two patients with ARM, four during hypospadias repair, and one during undescended testis repair. Surgical management included excision of the accessory urethra (n=9), urethroplasty using pedicled flap (Duckett tube, n=2), urethrourethroplasty (n=1), and excision of accessory and hypoplastic urethra with glans wedge resection and corpus cavernosa fusion in the case with bifid glans (n=1).

**CONCLUSIONS**

Urethral duplication is a rare congenital anomaly with highly variable clinical presentations, ranging from silent to specific complaints. Treatment should be individualized based on anatomical type, symptoms, associated anomalies, and surgeon experience, as no standard management exists. Early recognition and tailored surgical planning are essential to optimize outcomes in this heterogeneous patient population.

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*17:00 - 17:10*
**SN03-3** (NP)

## ★ A MULTIDISCIPLINARY MALE ONCO-FERTILITY PROGRAM: SAFE TESTICULAR TISSUE PRESERVATION IN 82 PREPUBERTAL ONCOLOGY PATIENTS

Irene IJGOSSE [1], Aart J. KLIJN [2], Ruud WORTEL [2], Leendert LOOIJENGA [1], Rogier SCHROEDER [2], Ralph OUDE OPHUIS [3], Margreet VEENING [1], Lideke VAN DER STEEG [1], Sruthi SRIRAM [1] and Marianne VAN DE WETERING [1]
*1) Prinses Maxima Centrum voor kinderoncologie, Pediatric oncology, Utrecht, NETHERLANDS - 2) UMC Utrecht, Pediatric urology, Utrecht, NETHERLANDS - 3) UMC Utrecht, Voortplantings geneeskunde, Utrecht, NETHERLANDS*

**PURPOSE**

Pediatric cancer survival now exceeds 80%, yet gonadotoxic chemotherapy causes high risk for infertility in 25-35% of male survivors. While semen cryopreservation is established for pubertal boys, prepubertal patients require preservation of the spermatogonal precurser cells, the stem cells. We present outcomes from a systematic national oncofertility program integrating testicular tissue cryopreservation into routine prepubertal cancer care.

**MATERIAL AND METHODS**

Between 2021-2025, newly diagnosed male oncology patients were risk-stratified according to international PanCareLIFE guidelines. All high-risk patients (n=410) received structured counseling by a multidisciplinary team including pediatric oncologists, a fertility nurse practitioner, and pediatric urologists. Of patients choosing fertility preservation (n=234, 57%) 152 (post)pubertal boys opted for semen preservation. 82 prepubertal boys agreed on unilateral open trans-scrotal testicular biopsy during general anesthesia scheduled for port-a-cath placement. With informed consent, 15% of tissue was allocated for spermatogonial stem cell (SSC) research;

85% was cryopreserved. Tissue viability and histopathology were assessed for research samples. Surgical complications were systematically evaluated immediately post-operatively and at structured follow-up intervals

**RESULTS**

All 82 testicular biopsies yielded tissue suitable for cryopreservation with volumes correlating to testicular size. Histological examination confirmed presence of spermatogonial stem cells in all samples allocated for research. No intra-operative complications occurred. Post-operatively, one patient (1.2%) developed a self-limiting scrotal hematoma requiring no intervention. No testicular atrophy, infection, delayed wound healing, or long-term adverse events were documented. The procedure added minimal time to anesthesia, and cancer treatment initiation was not delayed in any case.

**CONCLUSIONS**

Systematic implementation of a multidisciplinary oncofertility program successfully counseled 57% of high-risk patients. Unilateral testicular tissue biopsy in prepubertal boys is safe (1.2% complication rate), achieves 100% cryopreservation success, and does not delay cancer treatment. This standardized approach demonstrates feasibility of fertility preservation and supports SSC cryopreservation as standard-of-care in pediatric oncology centers.

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*17:10 - 17:20*
**SN03-4** (NP)

## POSTERIOR URETHRAL VALVES - AN UNDERESTIMATED CAUSE OF LOWER URINAR TRACT SYMPTOMS IN BOYS?

Tabea EICHLER [1], Vivienne SOMMER [1], Raphael N. VUILLE-DIT-BILLE [1] and Martina FRECH [2]
*1) University Children's hospital Basel, Paediatric Urology/Surgery, Basel, SWITZERLAND - 2) University Children's Hosptial Basel, Paediatric Urology/Surgery, Basel, SWITZERLAND*

**PURPOSE**

Posterior urethral valves (PUV) are the main cause of lower urinary tract obstruction in boys. Most cases are detected prenatally or in early infancy, but more than one third of patients are only diagnosed later (Brownlee et al. J Pediatr Surg 2019; 54: 318-21). The aim of this study is to examine the correlation between persistent lower urinary tract symptoms (LUTS) and PUV in older boys.

**MATERIAL AND METHODS**

We conducted a retrospective analysis of all boys older than 7 years, who underwent diagnostic cystoscopy for persistent LUTS or recurring urinary tract infections (UTI) from January 2018 until September 2025. Cystoscopy was indicated after unsuccessful conservative treatment. PUV were defined as a narrowing of the urethra by at least 30% at typical localization.

**RESULTS**

A total of 55 boys older than 7 years underwent diagnostic cystoscopy between January 2018 and September 2025 due to unsuccessful conservative treatment of their symptoms. In 49 of these boys, PUV were detected and treated in the same surgery. 44 (89.8%) of those patients initially showed a form of LUTS (incontinence, enuresis, dysuria, voiding difficulties or urinary retention). 32 (65.3%) showed any abnormality in ultrasound,

while there were 7 patients (14.3%) that didn't show any abnormality in ultrasound or uroflowmetry. After surgical treatment, 4 patients were lost to follow up. Among the remaining boys, 25 (55.6%) experienced complete resolution of their symptoms within the first 6 months post-surgery. 7 patients (15.6%) showed no improvement at all. In the rest a partial resolution of symptoms could be seen.

**CONCLUSIONS**

PUV are an often-underestimated cause of LUTS in older boys. Functional diagnostics, such as uroflowmetry, should be employed as early as possible, while ultrasound should be interpreted with caution, as they may not reveal the presence of PUV. Cystoscopy should be considered in patients with unsuccessful conservative treatment and remains crucial for symptom improvement, although full resolution of symptoms may still take considerable time after surgical treatment.

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*17:20 - 17:30*
**SN03-5** (NP)

## THE URODYNAMIC PRESENTATION OF INFANTS WITH POSTERIOR URETHRAL VALVES POST-VALVE RESECTION

Eskinder SOLOMON [1], Pankaj MISHRA [1], Jo CLOTHIER [2] and Massimo GARRIBOLI [1]
*1) Evelina Children's Hospital, Paediatric Urology, London, UNITED KINGDOM - 2) Evelina Children's Hospital, Paediatric Nephrology, London, UNITED KINGDOM*

**PURPOSE**

To review and present the video urodynamics (VUD) presentations of infants with posterior urethral valves (PUV)

**MATERIAL AND METHODS**

We retrospectively reviewed the VUD findings of 38 infants born with PUV post-valve resection. From least two-fill cycles, we documented the presence of detrusor overactivity (DO, detrusor contraction with associated guarding as determined by EMG and/or fluoroscopy), cystometric capacity, end-fill $P_{det}$, compliance (C = capacity/end-fill $P_{det}$) and evidence of vesico-ureteric reflux (VUR). From the voiding phase (urine output with a relaxed external urinary sphincter), we determined the maximum voiding $P_{det}$ ($P_{detMax}$), post-void residual (PVR) as well as radiographic evidence of bladder neck obstruction (BNO) and dysfunctional voiding (DV)

**RESULTS**

The mean (+sd) period between birth and PUV resection and the VUD was 17 (+13) days and 248 (+172) days respectively. Voiding data was acquired in 35 boys (in the other 5, the study was terminated when the infused bladder volume exceeded 150% of the expected bladder capacity). The VUD findings are given in the table below.

| UD parameter | n/Mean (+SD) |
|---|---|
| Filling phase | |
| DO | 30/38 (79%) |
| Peak DO ($P_{DOPeak}$) | 75 (+61) $cmH_2O$ |
| Capacity | 81 (+50) ml |

| | | |
|---|---|---|
| End-fill Pdet | 6(+5) $cmH_2O$ | |
| Compliance (C) | 14.7 (+27) ml/$cmH_2O$ | |
| VUR | 19/38 | |
| Voiding phase | | |
| Voiding data acquired | 35/38 | |
| PdetMax | BNO +ve | BNO -ve |
| | n=14<br><br>151 (+67) $cmH_2O$ | n=21<br><br>86.5 (+43) $cmH_2O$ |
| DV | 25/35 | |
| VUR | 21/35 | |
| PVR | 32 (+44) ml | |

**CONCLUSIONS**

DO and DV were the most common urodynamic findings. It is likely the prevalence of DV will decrease as voiding becomes more coordinated with age. However, the typically high-pressure nature of the DO suggests it is likely secondary to outlet obstruction during key stage of development rather than a dysfunction the infants will outgrow. VUR and BNO were also observed in almost half of the cohort. The prevalence and severity of bladder dysfunction in infants with PUV warrants close monitoring and potentially proactively management.

# SN04: ADOLESCENT UROLOGY

*Moderators: Sarah Boulby (UK), Magdalena Boije (SE)*

**ESPU-Nurses Meeting on Thursday 18, June 2026, 09:20 - 10:00**

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*09:20 - 09:30*
**SN04-1** (NP)

## SEXUAL ABUSE PREVALENCE AMONG INDIVIDUALS WITH SPINA BIFIDA: ASSOCIATION WITH CATHETERIZATION AND SEX DIFFERENCES

Betsy HOPSON [1], Carmen TONG [1], Ethan WAN [2] and Stacy TANAKA [1]
*1) University of Alabama at Birmingham, Urology, Birmingham, USA - 2) University of Alabama at Birmingham, Heersink School of Medicine, Birmingham, USA*

**PURPOSE**

Individuals with spina bifida (SB) frequently require lifelong bladder management, most often through clean intermittent catheterization (CIC). Although prior research shows that people with disabilities face an elevated risk of sexual abuse, the relationship between bladder management methods and this risk remains poorly understood. The aim of this study was to examine associations between sexual abuse, CIC use, and sex among adults with SB to inform targeted screening and prevention strategies in clinical care.

**MATERIAL AND METHODS**

We analyzed responses from a validated sexual and reproductive health survey of adults with SB distributed through the national Spina Bifida Association (United States). Sexual abuse was defined as any non-consensual or unwanted sexual experience; "none of these things have ever happened to me" was coded as no abuse. Childhood sexual abuse was defined as occurring before age 18. Sex was defined by sex assigned at birth, and CIC use included any urethral or channel-based catheterization. Associations between CIC use, sex, and sexual abuse were assessed using chi-square or Fisher's exact tests when expected cell counts were <5. Odds ratios (ORs) with 95% confidence intervals (CIs) quantified associations, and frequencies and percentages were calculated using non-missing responses as denominators.

**RESULTS**

Among 137 respondents (102 females, 46 males; mean age = 40.8 ± 13.2 years), 46.0% reported a history of sexual abuse, and 57.4% of those experienced abuse before age 18. Females reported higher lifetime abuse than males (56.8% vs. 19.5%, $p < 0.01$) and more childhood abuse (59.2% vs. 40.0%, $p = 0.22$).

Among males, lifetime abuse did not differ by CIC use (16.1% CIC vs. 30.0% non-CIC, $p = 0.39$). Among females, prevalence was higher for CIC users (62.0% vs. 41.7%, $p = 0.13$). Females had over fivefold higher odds of lifetime abuse than males (OR 5.43, 95% CI 2.27-13.00), and female CIC users had more than double the odds compared with non-CIC females (OR 2.28, 95% CI 0.89-5.85).

**CONCLUSIONS**

Sexual abuse is highly prevalent among individuals with SB, with over half experiencing abuse before age 18. Females were over five times more likely to be abused than males. Although CIC use was not associated with

abuse among males, it trended toward significance among females, who had more than double the odds of lifetime abuse. These findings highlight the need for targeted screening and prevention, particularly for females using CIC.

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*09:30 - 09:40*
**SN04-2** (NP)

## COPING STRATEGIES USED IN CHILDREN AND ADOLESCENT WITH BEEC: THE CHILD AND PARENT PERSPECTIVE.

Magdalena BOIJE [1], Ulrika SVENNINGHED [2], Michaela DELLERMARK-BLOM [2], Elisabet ÖRTQVIST [1], Gundela HOLMDAHL [1], Sofia SJÖSTRÖM [2] and Elin ÖST [3]
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**PURPOSE**

The aim of this study was to explore which coping-strategies children and adolescents with Bladder-Exstrophy-Epispadia Complex (BEEC), and their parents, use in their everyday life.

**MATERIAL AND METHODS**

A total of 15 children or adolescents with BEEC, and 23 parents participated in semi-structured focus-group interviews. They were divided into groups according to age (2- 7 years, 8 – 12 years and 13 – 18 years) and sex (boys and girls). The children and adolescents and their parents participated in separate groups. In age group 2 – 7 years, only the parents were invited to participate. The interviews were recorded and transcribed. The transcribed material were analyzed through a qualitative content analyzing process according to Elo & Kyngäs (J Adv Nurs. 2008; 62(1):107-15).

**RESULTS**

A total of 443 statements were found concerning coping-strategies and the analysis resulted in six categories and ten sub-categories.

The analysis resulted in six categories and eight sub-categories described by the children and adolescents. Those were planning, seek support, acceptance, avoidance, complaining, feeling of helplessness, openness and wishful thinking. The children and adolescents spend a lot of their day planning around toilet-situations.

The parents described their child´s coping-strategies in six categories and seven sub-categories. They described: planning, seek support, avoidance, acceptance, feeling of helplessness, change how you think and complaining. The parents describe how they witness their child struggle with toilet-situations and how they try to help their child with the planning. They also try to empower their child to live a normal life.

The parents described their own coping-strategies in six categories and nine sub-categories. Those were: planning, seek support, avoidance, acceptance, feeling of helplessness, change how you think, wishful thinking, complaining and psychological distress/grief/anxiety. The parents often seek support from other parents in the

same situation. Many parents felt anxiety and sadness about their child's difficulties. They express the importance of the support from the urologist and urotherapist.

**CONCLUSIONS**

Living with BEEC, or to have a child or adolescent with BEEC, involves several different coping-strategies. Planning is important for both children and parents. Parents also seek support from care facilities and other parents.

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*09:40 - 09:50*
**SN04-3** (NP)

## RESULTS OF CORRECTION OF VENTRAL CURVATURE SECONDARY TO HYPOSPADIAS IN YOUNG ADULTS BY VENTRAL CORPOROTOMY AND XENOGRAFT WITH OR WITHOUT PREVIOUS SURGERY

Thomas LOUBERSAC [1], Thomas BLANC [2], Bernard BOILOT [3], Francois MARCELLI [4], Nicolas MOREL-JOURNEL [5] and François-Xavier MADEC [3]
*1) CHU Nantes, Paediatric Urology, Nantes, FRANCE - 2) Hôpital Necker-Enfants Malades, Assistance Publique-Hôpitaux de Paris,, Paris, FRANCE - 3) Hopital Foch, Urology, Suresnes, FRANCE - 4) CHU Lille, Lille, FRANCE - 5) CHU Lyon, Urology, Lyon, FRANCE*

**PURPOSE**

Residual ventral curvature is common in adults who have undergone hypospadias surgery and can cause discomfort during intercourse. Adults with proximal hypospadias may also have a short penis. Surgically correcting penile curvature may require a three-stage procedure. The initial stage involves sectioning the urethral plate, followed by ventral corporotomy and xenograft placement. Here, we present our results in this population.

**MATERIAL AND METHODS**

From 2023 to April 2025, nine adults with a history of hypospadias and ventral curvature, treated by ventral corporotomy and xenograft, were included.

Pre-operative and post-operative assessments included an erectile function evaluation using the Erectile Hardness Score (EHS).

During surgery, the urethral plate was sectioned, and a transverse anterior double-Y corporotomy was performed at the point of maximum curvature. The xenograft was placed in a watertight manner.

Success was defined as an absence of discomfort during intercourse and good erectile function.

**RESULTS**

All of the patients had proximal hypospadias.

Four had no prior hypospadias surgeries, and three had undergone two or more surgeries.

The median age at surgery was 29 years old (IQR: 24-33). The median follow-up time was 25 months (IQR: 17-31).

The median preoperative length of the penis in an erect state was 7 cm (IQR: 7-8).

Ventral curvature was below 90 degrees in four patients and above 90 degrees in five patients.

At the last follow-up, all patients had ventral curvature below 30 degrees, except for one patient with residual curvature of 45 degrees (preoperative curvature of 90 degrees).

Preoperative and postoperative erectile function was the same, with a median EHS score of 4/4 (IQR: 4–4).

Nine patients experienced sexual discomfort before surgery, and three (33%) experienced it after surgery.

The complication rate of complications greater than Clavien grade 2 was 33%, and cutaneous desunion was managed with a scrotal flap.

The success rate was determined to be 66%.

Four patients underwent a first stage of urethroplasty with a buccal mucosal graft.

**CONCLUSIONS**

Correcting a significant ventral curvature through a ventral corporotomy and graft appears to be feasible in adults with a history of hypospadias, even those who have undergone previous surgery, with good short-term results.

# SN05: EXTROSPHY & EPISPADIAS

*Moderators: Babett Jatzkowski (Sweden), Nav Johal (UK)*

**ESPU-Nurses Meeting on Thursday 18, June 2026, 10:00 - 10:20**

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*10:00 - 10:10*
**SN05-1** (NP)

## "IT SHOWED ME MY FAMILY IS NOT ALONE"; THE BENEFIT OF PARENT SUPPORT GROUPS IN BLADDER EXSTROPHY & EPISPADIAS

Jennifer POWELL [1] and Lucy FERGUSON [2]
*1) Royal Manchester Children's Hospital, Paediatric Urology, Manchester, UNITED KINGDOM - 2) Royal Manchester Children's Hospital, Paediatric Psychosocial Service, Manchester, UNITED KINGDOM*

**PURPOSE**

The benefits of peer support across a multitude of settings are well documented. The incidence of Bladder Exstrophy & Epispadias is rare and, as one of only two commissioned centres in our country, families face statistical and geographical barriers to meeting those facing similar challenges. A qualitative study exploring caregivers' experiences of having a child with these conditions highlighted the value placed on opportunities to interact and seek support from other families on the same journey (Ferguson, Soulsby and Hurrell, 2024).

**MATERIAL AND METHODS**

A group session was held on the hospital site for parents/carers of children under our service, with a diagnosis of Bladder Exstrophy and/or Epispadias. Twelve parents attended (group intentionally small to enable optimum interaction for attendees). Discussions were facilitated by nursing and psychology professionals around 4 key themes: difficult early experiences, a different experience of parenthood, a learning process and the importance of support. Following the session, families were asked to complete a socio-demographic and separate feedback questionnaire to explore their experiences of the group. All questionnaires were anonymous.

**RESULTS**

Feedback was positive, with families highlighting the benefit of networking with others, hearing individual journeys and feeling less alone; 92% of families felt more connected and 100% of attendees said they would recommend to others. Most attendees were from the local area, and we recognise barriers to attending face-to-face sessions. Parents talked about wanting to lead more discussions, reducing the need (and opportunity) for professional support.

**CONCLUSIONS**

Parents valued the opportunity to meet with others navigating a similar journey. This presents one example of a peer support group, facilitated by the clinical MDT. Group sessions are an efficient use of professional time and enable an MDT approach to information giving, without the time constraints of an outpatient clinic. Whilst face to face groups are preferrable, this can reduce engagement due to practicalities of travelling to the hospital (exacerbated by the large geographical area covered by our service). Further exploration of virtual platforms must be considered, to benefit a wider patient demographic. Parents are keen to lead discussions, which should be respected when planning future groups.

*10:10 - 10:20*
**SN05-2** (NP)

# KETAMINE INDUCED UROPATHY IN UNDER-16S: AN EMERGING PROBLEM IN NORTH-WEST ENGLAND

Harriet CORBETT [1] and Rachel ISBA [2]
*1) Alder Hey Children's NHS Foundation Trust, Regional Department of Urology, Liverpool, UNITED KINGDOM - 2) Alder Hey Children's NHS Foundation Trust, Liverpool, UNITED KINGDOM*

**PURPOSE**

Ketamine induced uropathy (KUI), typically seen in young adults with chronic high volume recreational use, was first described in 2007. The majority of sufferers are males in their mid-20s. Recreational use has increased in the UK, with a shift in demographic to those with greater social deprivation. Unfortunately, age of use has fallen, necessitating a dedicated clinic in association with a paediatrician with addiction expertise for children & young people (CYP) < 16 years in Merseyside. Our aim is to report our experience of managing this patient cohort to date.

**MATERIAL AND METHODS**

Analysis of a database of demographics and investigation results for all referrals for KIU. The database has been maintained prospectively since May 2025 with retrospective data entry for prior patients.

**RESULTS**

A single patient was referred in 2023, nine in 2024 and 47 in 2025; 70% were female. Median age at referral was 14.5 years, range 13-15. 39 patients have attended to date, two refused. Data re volume of ketamine use is poor, the CYP have poor recall or are reluctant to say. Age at first use (known in 25/41) was predominantly 12-13 years. 35/41 (85%) have a history of adverse childhood experiences and/or ADHD/ASD. Symptoms are predominantly pain and storage related with extreme nocturia, frequency and urgency, making urinary tract ultrasound scan (USS) poorly tolerated. 47 have had at least one USS, median bladder volume 86mLs (IQR 55-212); 16 have had 2 or more USS to monitor bladder wall thickening/hydronephrosis/very low capacity. Three who had stopped use have improved capacity and symptoms, the remainder have median capacity 69 mL (IQR 47-116) on most recent USS. Three with severe symptoms/USS have had cystoscopy and urodynamics: maximum capacity ranged from 50-120mLs, associated with extreme pain. 3/10 reported benefit from anticholinergics, 4/10 reported benefit from mirabegron, 2/6 reported benefit from pentosan-polysulphate. Five have been discharged due cessation of use and symptom resolution.

**CONCLUSIONS**

KIU in CYP is an emerging problem and strongly associated with adverse life experiences and/or neurodiversity. USS of the bladder is difficult to tolerate which subjectively correlates with symptoms. In those most severely affected support is vital to help break the ‘bladder pain – take more ketamine’ cycle. Bladder symptoms may recover with cessation, but longer-term data is needed.

# LBE: Lecture on Bladder Exstrophy: Nursing management of a child with Bladder Exstrophy

*Moderators: Jennifer Powell (UK)*

**ESPU-Nurses Meeting on Thursday 18, June 2026, 11:40 - 13:00**

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*11:40 - 12:20*
**LBE-1** (LP)

## THE BLADDER EXSTROPHY PATHWAY; A NURSE PERSPECTIVE JENNIFER POWELL

Jennifer POWELL
*Royal Manchester Children's Hospital, Manchester, UNITED KINGDOM*

**PURPOSE**

Our centre has been a highly specialised, commissioned centre for children with Exstrophy-Epispadias Complex for over 20 years. The rarity of this condition poses unique challenges, both for healthcare professionals and families, and it is through extensive experience and audit, that we have developed an evidence-based MDT pathway. The role of the clinical nurse specialist is integral to service delivery, and the author would like to share this pathway on an international platform, stimulating discussion and collaborative brainstorming.

**MATERIAL AND METHODS**

The author reflected on the past 2 decades of service provision, with increased service demands (doubling of referrals) and changes to clinical pathways, including the introduction of prophylactic CIC for all post-op bladder closures, a transition service and implementation of virtual platforms for select aspects of service delivery. Quantitative data is limited due to the breadth of the review; however patient feedback was collected to review virtual platforms and review attendance of new service developments (e.g. joint CNS and psychology transition video appointments audited).

**RESULTS**

The limitations of the financial climate and resource provision are acknowledged, and this often stimulates idiosyncratic innovations e.g. digital teaching platforms to upskill ward nurses (reducing dependence on CNS), development of digital patient resources, handheld portable biofeedback machines to reinforce nurse led training and utilisation of local centres to enhance support for families. A non-attendance rate of 25% was noted for nurse led video transition clinics, emphasising the importance of access to the MDT when attending consultant led appointments, with a dedicated transition consultant.

**CONCLUSIONS**

Centralised service provision has enabled rapid growth of clinical experience and expertise, allowing us to make evidence-based decisions around pathway management. Our approach to Exstrophy (including delayed closure) is becoming increasingly internationally recognised, but the importance of MDT input must be simultaneously considered within service provision, to provide the best care.

# SN06: EXTROSPHY / TESTIS

*Moderators: Babett Jatzkowski (Sweden), Cheryl Rowe (UK)*

**ESPU-Nurses Meeting on Friday 19, June 2026, 09:00- 09:30**

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*09:00 - 09:10*
**SN06-1** (NP)

## ANXIETY LEVELS AND RELATED FACTORS AMONG MOTHERS BEFORE HYPOSPADIAS SURGERY

Çiğdem ARSLAN ALICI [1], Bilge TÜREDI SEZER [2], Ali SEZER [2] and Eylül Gülnur ERDOĞAN [3]
*1) Eskisehir City Hospital, Pediatric Urology, Eskisehir, TÜRKIYE - 2) Konya City Hospital, Pediatric Urology, Konya, TÜRKIYE - 3) Bilecik Seyh Edebali University, Faculty of Health Sciences, Public Health Nursing, Bilecik, TÜRKIYE*

**PURPOSE**

The purpose of this study was to assess the state and trait anxiety levels of mothers whose children were scheduled for hypospadias surgery and to identify the factors influencing these anxiety levels.

**MATERIAL AND METHODS**

This cross-sectional study was conducted throughout 2024 with 72 mothers of children diagnosed with hypospadias in the Pediatric Urology Clinics of Eskişehir and Konya City Hospitals. Data were collected using the Descriptive Information Form and the State–Trait Anxiety Inventory (STAI-S/STAI-T).

**RESULTS**

The mean age of the mothers was 33.45 ± 7.07 years. The mean state anxiety (STAI-S) score was 40.13 ± 4.29, and the mean trait anxiety (STAI-T) score was 43.19 ± 4.18, indicating moderate levels of anxiety. A strong and significant positive correlation was found between state and trait anxiety scores ($r = .740$, $p < 0.001$). Statistically significant differences were observed between anxiety levels and both mothers' educational status and the source of initial information ($p < 0.05$). Mothers with lower education levels and those who received initial information from pediatricians had higher anxiety levels. No significant differences were found according to mothers' age, occupation, or the child's age ($p > 0.05$).

**CONCLUSIONS**

Mothers' anxiety levels before hypospadias surgery were closely associated with their educational level and the source of information. The higher anxiety levels among mothers with lower education and those informed by pediatricians highlight the importance of effective communication and psychosocial support during the information process. Providing clear and comprehensible information, offering emotional support, and strengthening health literacy may reduce maternal anxiety and contribute to the psychosocial success of the surgical process.

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*09:10 - 09:20*
**SN06-2** (NP)

# CLINICAL FACTORS ASSOCIATED WITH ANXIETY DISORDERS IN ADULTS WITH CHILDHOOD HYPOSPADIAS REPAIR: RESULTS FROM THE F.R.E.S.H. STUDY

Michele GNECH [1], Massimiliano BUOLI [1], Francesca MITZMAN [1], Dario Guido MINOLI [2], Erika DE MARCO [1], Eduje THOMAS [1], Massimo DI GRAZIA [3], Marco CASTAGNETTI [4], Gianantonio MANZONI [1] and Alfredo BERRETTINI [1]
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**PURPOSE**

Anxiety disorders are frequently observed in individuals with congenital urological conditions, yet their long-term impact in patients with hypospadias remains underexplored. This study, part of the F.R.E.S.H. project, investigates the prevalence of pathological anxiety and its association with clinical and surgical factors in adults who underwent hypospadias repair during childhood.

**MATERIAL AND METHODS**

A total of 36 adult males were recruited. Data collection included demographic, clinical, surgical, and mental health variables, with anxiety severity assessed using the State-Trait Anxiety Inventory (STAI-Y1-Y2) and depression by Beck Depression Inventory-II (BDI-II). The two groups identified by the presence of anxiety disorders (STAI-Y1 < or ≥ 40) were compared by unpaired sample t tests for continuous variables and $\chi 2$tests for qualitative variables. Statistically significant variables at univariate analyses were then inserted as independent factors in a binary logistic regression model with presence of anxiety disorder as dependent variable.

**RESULTS**

Pathological anxiety was present in 38.9% of participants, a higher prevalence than previously reported in similar populations. The group suffering from anxiety disorders resulted (compared the counterpart): to have an earlier age at visit ($p=0.030$), a moderately impaired voiding dynamics ($p<0.05$), more severe depressive symptoms ($p<0.01$) and more surgical complications at borderline statistical significance ($p=0.08$). In contrast, aesthetic satisfaction did not significantly differ between anxious and non-anxious patients.

**CONCLUSIONS**

These findings emphasize that functional impairments and mental health vulnerability, rather than aesthetic concerns alone, may drive anxiety development in hypospadias patients. The results underscore the need for a multidisciplinary follow-up strategy integrating both urological and psychiatric care to optimize long-term patient outcomes.

*09:20 - 09:30*
**SN06-3** (NP)

# EVALUATİON OF MATERNAL ANXİETY AND RELATED FACTORS İN THE PREOPERATİVE MANAGEMENT OF CHİLDREN SCHEDULED FOR UNDESCENDED TESTİCULAR SURGERY

Çiğdem ARSLAN ALICI [1], Eren YAŞA [2], Aziz Serhat BAYKARA [2] and Eylül Gülnur ERDOĞAN [3]
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**PURPOSE**

Parents of children undergoing surgery often experience heightened anxiety, and maternal educational status may influence this. This study aimed to evaluate the relationship between mothers' education levels and anxiety in the context of undescended testicle surgery.

**MATERIAL AND METHODS**

This cross-sectional study was conducted between February and December 2024. The study sample comprised the mothers of 128 children diagnosed with undescended testicles and scheduled for surgical intervention. The collection of data was conducted through the utilisation of a Personal Information Form and the State-Trait Anxiety Inventory (STAI-S and STAI-T).

**RESULTS**

The mean age of the mothers was 32,2±6,9 years, and 71,9% were housewives. The mean STAI-S and STAI-T scores were 41,22±6,24 and 46.37±6.57, respectively, indicating moderate anxiety levels. No significant association was found between maternal education level and STAI scores ($p>0.05$). However, a significant correlation was observed between STAI-T scores and the specialty of the physician providing the initial information; mothers informed by a pediatric urologist/urologist had significantly lower anxiety levels ($p = 0.037$). Conversely, obtaining preliminary information from environmental or internet sources was associated with higher anxiety. Additionally, maternal anxiety tended to increase as the child's age decreased ($p=0.287$ and $p=0.888$, respectively).

**CONCLUSIONS**

Moderate anxiety is common among mothers of children undergoing surgery for undescended testicles, and both the department and source of initial information significantly influence anxiety levels. Early consultation with specialist physicians is essential to standardise information and tailor it to health literacy. Furthermore, high-risk groups in primary care -such as mothers with low education levels, younger children, and those relying on internet-based information- should be identified promptly by public health nurses and provided with counselling and psychosocial support.

# SN07: FUNCTIONAL VOIDING DISORDERS

*Moderators: Dominik Kinderknecht (DE), Sarah Cooper (USA)*

**ESPU-Nurses Meeting on Friday 19, June 2026, 09:30 - 10:10**

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*09:30 - 09:40*
**SN07-1** (NP)

## ALARM TOOLS USED IN UROTHERAPY FOR CHILDREN WITH FUNCTIONAL DAYTIME URINARY INCONTINENCE: A QUALITATIVE STUDY OF CHILDREN AND PARENT EXPERIENCES

Eline VAN DE WETERING [1], Liesbeth DE WALL [2], Anka NIEUWHOF-LEPPINK [3], Wout FEITZ [2], Laetitia DE KORT [4] and Anke OERLEMANS [5]
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**PURPOSE**

Functional daytime urinary incontinence (DUI) is a prevalent condition in children, impacting their psychosocial well-being and often that of their parents. Urotherapy is recommended as first-line treatment modality and its efficacy depends on motivation and adherence. Wearable alarm tools are often used in urotherapy to help children recognize and respond to bladder signals, yet adherence varies widely. Research into the thoughts and experiences of children and their parents with the use of alarm tools in urotherapy is currently lacking. Gaining this insight will enable a more patient-adjusted approach, thereby potentially increasing adherence and treatment success.

**MATERIAL AND METHODS**

A qualitative study was conducted, comprising individual or dual, semi-structured interviews. Interviews were held with the child while the caregiver was present, or with the caregiver alone. In some cases, the caregivers spoke on behalf of their child. Eligible children with DUI were 6-15 years old who were currently receiving or had concluded urotherapy with a timer watch, alarm pants and/or bladder sensor. Interviews were conducted online via videocall, transcribed and analyzed using an inductive analysis approach until data saturation was reached.

**RESULTS**

Interviews were held with 11 mothers and 10 children. Practical barriers for adherence included tool size, malfunctions and connectivity issues with the device. Children expressed shame and fear of judgment regarding their condition and the alarm tool, indicating a preference for invisible tools and silent alerts. Inability to adequately interpret and respond to the sensation of a full bladder was reported by the majority, which impacted the utilization of the alarm tools and the expectations regarding their efficacy. Motivation and adherence were mentioned as key factors for treatment success and were influenced by the perceived tool efficacy and the feedback modality.

**CONCLUSIONS**

Experiences with alarm tools in urotherapy are influenced by psychosocial, sensory, motivational and practical aspects. According to our participants, the ideal alarm tool should be comfortable, discrete, provide real-time feedback on bladder fulness and increase awareness of bladder signals. A child-centered, personalized approach that integrates motivational support, discretion, and attention to sensing bladder signals may improve adherence and continence outcomes in children with DUI.

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*09:40 - 09:50*
**SN07-2** (NP)

## IMPACT OF BOTULINUM TOXIN A (BTA) ON CONTINENCE, BLADDER EMPTYING, AND ADJUVANT MEDICATION USE IN PEDIATRIC NON-NEUROGENIC BLADDER DYSFUNCTION

Joana DOS SANTOS, Lisa WANG, Mandy RICKARD, Kay RIVERA, Adree KHONDKER, Abby VARGHESE, Rodrigo ROMAO, Joao Luiz PIPPI SALLE, Mirriam MIKHAIL, Beverly MIRANDA, Michael CHUA and Armando J. LORENZO
*The Hospital for Sick Children, Urology, Toronto, CANADA*

**PURPOSE**

Intra-detrusor BTA injections are a well-established intervention for refractory neurogenic bladder, but evidence for its value in pediatric non-neurogenic lower urinary tract dysfunction remains limited. We evaluated the clinical impact of BTA on continence, bladder emptying, and medication burden in children with refractory functional and anatomical non-neurogenic conditions.

**MATERIAL AND METHODS**

We reviewed 31 children treated with intra-detrusor and/or sphincteric BTA for dysfunctional voiding (DV), overactive bladder, posterior urethral valves/atresia, Hinman's syndrome, giggle incontinence, pelvic pain syndrome, or iatrogenic dysfunction. Outcomes included continence response, post-void residuals (PVRs), and bladder medication use. Statistical comparisons were performed using Mann–Whitney U and Fisher's exact tests.

**RESULTS**

Median age at first injection was 8.3 years (IQR 6.8-12.6). BTA was administered to the detrusor (61%), sphincter/bladder neck (36%), or both (3%). Overall continence improved in 85%, with 78% achieving complete resolution. Among detrusor-treated patients, 26% became fully dry with BTA alone. Fourteen patients (45%) required catheterization, most commonly those with PUV (23%). Catheter use was uncommon in children with OAB (3%) or dysfunctional voiding (6%). Patients with DV experienced a dramatic improvement in bladder emptying,with median PVR decreasing from 188 mL to 6.5 mL ($p = 0.0012$). Medication burden also significantly decreased: the proportion requiring no bladder medications increased from 0% to 25% ($p=0.0047$). Complications were minimal and limited to isolated UTIs (13%) and transient hematuria (3%).

| Variable | Overall (n=31) | Key Findings |
|---|---|---|
| CIC/SPT use | 14 (45%) | — |
| Primary diagnoses | DV 10 (33%)<br>OAB 8 (26%)<br>PUV/atresia 7 (23%)<br>Hinman's syndrome 2(6%)<br>Iatrogenic dysfunction 2(6%)<br>Pelvic pain syndrome 1(3%)<br>Giggle incontinence1(3%) | — |
| Age at first BTA | 8.3 yrs (IQR 6.8–12.6) | — |
| Number of BTA sessions | 4 (IQR 1–6) | — |
| Injection site | Detrusor 61%, Sphincter 36%, Both 3% | — |
| Complications | Febrile UTI 10%; Afebrile 3%; Hematuria 6% | No major events |
| Medication-free | 0% → 25% | p = 0.0047 |
| PVR (DV patients) | 188 → 6.5 mL | p = 0.0012 |

**CONCLUSIONS**

BTA is a safe, effective, and potentially underutilized therapy for pediatric non-neurogenic bladder dysfunction. In well selected cases it achieves high continence rates, restores efficient bladder emptying—particularly in DV—and meaningfully reduces medication dependence. These findings support earlier adoption of BTA for refractory non-neurogenic lower urinary tract dysfunction.

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*09:50 - 10:00*
**SN07-3** (NP)

## ENHANCING UROTHERAPY USING THE BLADDER SENSOR FOR CHILDREN WITH FUNCTIONAL DAYTIME URINARY INCONTINENCE: A MULTI-CENTER RANDOMIZED CONTROLLED TRIAL

Eline VAN DE WETERING [1], Liesbeth DE WALL [2], Anka NIEUWHOF-LEPPINK [3], Marleen TROMPETTER [4], Eveline LEIJN [5], Laetitia DE KORT [6], Wout FEITZ [2] and Renske SCHAPPIN [7]
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**PURPOSE**

Functional daytime urinary incontinence(DUI) affects up to 20% of 7-year-old children. Urotherapy is the first-line treatment and wearable alarm systems are frequently used to provide feedback, though success rates vary. A recent innovation in this field is the bladder sensor, which is a real-time ultrasonic sensor that emits an alarm

when the child's bladder is full. The purpose of the bladder sensor is to help children interpret the bladder sensations that precede voiding, which might enable a more rapid learning curve in urotherapy, leading to fewer wetting accidents. The aim of this study was to evaluate the clinical effectiveness of incorporating the bladder sensor into urotherapy for children with DUI.

**MATERIAL AND METHODS**

A multi-center, double blinded, randomized controlled trial was set up for children with DUI between 6 and 16 years old. A sample size of 219 participants was calculated. Participants were randomized in a 1:1:1 ratio into urotherapy alone, urotherapy with bladder sensor and urotherapy with placebo bladder sensor. The primary outcome was the number of wetting accidents after three months, comparing the bladder sensor with the placebo. Secondary outcomes included wetting accidents after six months, the magnitude of the placebo effect and changes in quality of life.

**RESULTS**

A total of 223 children agreed to participate, from 416 children recruited across five medical centers, including a first-line clinic, general and academic hospitals. Baseline characteristics include a mean age of 7.98 years(SD 1.89) and 46.1% of participants being girls. At baseline, 13.7% of children were diagnosed with a neurodevelopmental disorder. The majority of children had an overactive bladder (57.1%), followed by voiding postponement(21.9%) and dysfunctional voiding(7.6%). Approximately 29% of children were therapy-naïve. Participants reported a median of 7(IQR 5-12) wetting accidents per week at baseline. Outcomes are currently being analyzed, thereby exceeding the initial abstract deadline, but will be available to present in June 2026.

**CONCLUSIONS**

We hereby present a prospective, multi-center, randomized controlled trial that includes a large cohort of children with functional DUI. This study introduces a novel approach to urotherapy, incorporating continuous bladder monitoring, potentially marking an important step forward in the management of DUI.

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*10:00 - 10:10*
**SN07-4** (NP)

## CASE SERIES: WEARABLE BLADDER SENSOR FOR DAYTIME INCONTINENCE & ENURESIS

Filine VAN DEN BOSCH and Paul VAN LEUTEREN
*Novioscan B.V. - an Essity company, IQ Solutions, Nijmegen, NETHERLANDS*

**PURPOSE**

The aim of this case series was to explore the feasibility and user experience of a wearable bladder sensor in managing daytime incontinence and enuresis. Recruitment targeted both children and adults; however, this report focuses exclusively on ten pediatric cases to assess outcomes and identify areas for improvement.

**MATERIAL AND METHODS**

Participants were recruited via an online platform. From 712 website visitors, 182 signed up, and 80 requested further information. After 45 eligibility interviews, 16 were selected to prospectively use the bladder sensor as intended (children and adults combined), of which 10 children tested the bladder sensor (6.5 to 14 years old). All

had prior unsuccessful interventions such as bedwetting alarms, medication, and diapers. The test period ranged from baseline to over 3 months, with follow-up at 1-2 weeks, 1 month, and beyond 3 months. Each case was analyzed individually for prior history, goals, and device experience.

**RESULTS**

Outcomes varied across cases. One child (7-year-old boy) reduced daytime diaper use from 3-4 per day to 0-1, gaining bladder awareness and confidence. Another child (8-year-old boy) achieved complete dryness within two weeks, eliminating nightly diaper use. In some cases, users indicated usability improvements, such as a request for additional guidance in setting up the device (e.g. setting the correct bladder capacity for reminders or finding the right location on the belly), personalization of the reminders (e.g. vibration intensity), or the adhesive patches loosening while playing actively.

**CONCLUSIONS**

This case series highlights the potential of a wearable bladder sensor to improve continence in selected pediatric cases during day and/or night. As a result of the case series, device improvements regarding the initial onboarding of the device, personalization of reminders and device-adhesion to the lower abdomen will be initiated. Further studies with larger cohorts are warranted to confirm these findings.

# SN08: MISCELLANEOUS 2

*Moderators: Angela Dower (UK), Bieke Samijn (BE)*

**ESPU-Nurses Meeting on Friday 19, June 2026, 10:10 - 10:50**

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*10:10 - 10:20*
**SN08-1** (NP)

## THE USE OF VIRTUAL REALITY HEADSETS DURING PAEDIATRIC VIDEO URODYNAMICS

Louiza DALE, Angela DOWNER, Sonia DUGMORE and Kristina DZHUMA
*Oxford Children's Hospital, Paediatric Urology, Oxford, UNITED KINGDOM*

**PURPOSE**

Video Urodynamics (VUD) is an invasive diagnostic procedure that measures bladder pressure in children. Optimal study quality requires the child to remain calm and still, as movement can introduce artefacts. We report our experience implementing VR technology as a distraction tool during VUD to improve patient tolerance, reduce anxiety, and enhance study quality.

**MATERIAL AND METHODS**

VR is an interactive, 3- dimensional, computer stimulated environment, accessed through a head mounted device, precluding the real-world view. Children aged 4-16 years were offered the option to use a VR headset during VUD when deemed appropriate by a Play Specialist. The child and specialist selected the VR program, which included games, mindfulness and incentive breathing activities. The headset was secured prior to the procedure and could be discontinued at any time. Clinical assessment included observation of anxiety levels, cooperation, communication ability, and artefact frequency during the study. Patients' feedback was collected at the end of the procedure.

**RESULTS**

Over a 3-month period, VR was used in five patients. Clinical assessment demonstrated reduced anxiety and improved compliance with procedural instructions in all cases. Children remained communicative and responsive while immersed in VR. Parents and clinicians reported that VR facilitated tolerance of the procedure. All children responded positively, and all participants expressed willingness to use VR again. Clinicians observed fewer artefacts in pressure recordings and shorter procedure times. No adverse events were reported.
Play Specialists reported that children engaged more readily with the VR environment, demonstrating decreased pre-procedural distress compared to standard distraction techniques. Feedback from the patients was very positive and included one 9-year-old patient willing to come back the following day for the procedure to be performed again.

**CONCLUSIONS**

VR technology appears to be a valuable adjunct for promoting relaxation and distraction during paediatric VUD. Clinical assessment confirms its role in reducing anxiety, improving procedural compliance, and enhancing study quality. Continued application and evaluation in a larger cohort are warranted.

*10:20 - 10:30*
**SN08-2** (NP)

## ★ AI-ASSİSTED COMPARATİVE ANALYSİS OF PEDİATRİC UROLOGY GUİDELİNES (EAU-AUA-NICE): A CROSS-GUİDELİNE NLP-BASED STUDY

Çiğdem ARSLAN ALICI [1] and Aykut AYKAÇ [2]
*1) Eskisehir City Hospital, Pediatric Urology, Eskisehir, TÜRKIYE - 2) Eskişehir City Hospital, Urology, Eskişehir, TÜRKIYE*

**PURPOSE**

The purpose of this study was to evaluate whether artificial intelligence (AI) and natural language processing (NLP) techniques can accurately identify concordance and divergence across pediatric urology guidelines published by the European Association of Urology (EAU), American Urological Association (AUA), and National Institute for Health and Care Excellence (NICE). The study aimed to determine the degree of alignment among recommendations and to characterize terminology variability that may hinder guideline standardization.

**MATERIAL AND METHODS**

Guidelines from EAU, AUA, and NICE published between 2023 and 2025 were analyzed across four clinical domains: vesicoureteral reflux (VUR), enuresis, hydronephrosis, and imaging. NLP tools (BERT, GPT, and SciSpacy) were employed to extract, categorize, and compare recommendations. Semantic similarity metrics, including Jaccard similarity and cosine similarity, were used to quantify concordance. Expert validation was performed on a randomly selected subset of statements to assess the accuracy of AI-derived classifications. Primary outcomes included guideline concordance, terminology variability, and validation accuracy.

**RESULTS**

High concordance was observed between EAU and AUA guidelines (Jaccard similarity 0.82; cosine similarity 0.91), while NICE recommendations demonstrated moderate divergence. Agreement was strongest in the VUR domain, with 9 of 12 statements showing alignment. Hydronephrosis guidelines exhibited the greatest heterogeneity. Significant terminology variability—particularly within enuresis recommendations—was noted between AUA and NICE. Expert review confirmed the accuracy of AI-generated classifications in 90% of the evaluated statements. Limitations included the use of only three guideline sources and potential algorithmic bias related to training data.

**CONCLUSIONS**

AI-assisted and NLP-based analysis provides an effective method to identify consensus and variation across major pediatric urology guidelines. This approach has the potential to enhance guideline harmonization and contribute to the development of evidence-based clinical decision-support systems. Further validation across broader guideline sets and clinical contexts is warranted to strengthen generalizability and real-world applicability.

*10:30 - 10:40*
**SN08-3** (NP)

# REDUCING EARLY BLEEDING IN NEONATAL CIRCUMCISION: INTERIM ANALYSIS OF 2-OCTYL CYANOACRYLATE VS STANDARD CARE IN A DOUBLE-BLINDED RANDOMIZED CONTROLLED TRIAL

Usman KAHLOON [1], Michael CHUA [1], David LEVIN [2], Samer MAHER [1], Julia LEVIN [3], Lizz BORUTSKI [3], Barbara PANNOZZO [1], Armando LORENZO [1], Mandy RICKARD [1], Abby VARGHESE [1] and Joana DOS SANTOS [1]
*1) The Hospital For Sick Children, Division of Urology, Toronto, CANADA - 2) The Hospital For Sick Children, Division of Anesthesia, Toronto, CANADA - 3) The Circumcision Clinic, Toronto, CANADA*

**PURPOSE**

Bleeding is the most common early complication of neonatal circumcision despite standardized technique. 2-Octyl cyanoacrylate (2OCA), a topical skin adhesive, may enhance hemostasis, improve wound approximation, and serve as an antimicrobial barrier. The objective of this institutionally approved (REB #1000070281) multi-site double-blinded randomized controlled trial is to evaluate the efficacy and safety of 2OCA compared with standard of care (SOC; petroleum jelly) in reducing post-circumcision complications.

**MATERIAL AND METHODS**

Healthy neonates (2–60 days) were randomized 1:1 by sealed envelopes to 2OCA or SOC following circumcision using Gomco or Mogen clamps under local anesthesia (0.5% bupivacaine ± 1% lidocaine). The operating physician was blinded to allocation until clamp removal. The primary endpoint was intraoperative bleeding requiring compression dressing, silver nitrate, or suturing. Continuous variables were compared using two-sample t-tests, multi-category variables using Wilcoxon rank-sum tests, and binary categorical variables using Fisher’s exact tests ($p<0.05$). Bleeding risk was estimated with univariate logistic regression. All analyses followed an intention-to-treat approach.

**RESULTS**

One hundred neonates were included (2OCA n=42; SOC n=58). Baseline characteristics were comparable between groups (Table 1). Bleeding occurred in 4.8% of 2OCA versus 31.0% of SOC cases ($p<0.001$). On univariate logistic regression, 2OCA use was associated with an 89% reduction in the odds of bleeding (B=–2.20; SE=0.78; Wald=7.97; p=0.005; OR, 0.11; 95% CI, 0.02–0.51). Subgroup analysis showed significance for Gomco circumcisions (3.7% vs 42.1%; $p<0.001$) but not for Mogen (6.7% vs 11.1%; p=0.66).

Table 1. Baseline Characteristics of Participants by Study Group

| a Two-sample t-test.<br>b Wilcoxon rank-sum test.<br>c Fisher's Exact test. | | | |
|---|---|---|---|
| Baseline Variable | Intervention (n=42) | Control (n=58) | p-value |
| Age (days), mean ± SD | 38 ± 18 | 35 ± 16 | 0.34[a] |
| Weight (kg), mean ± SD | 4.4 ± 0.8 | 4.4 ± 0.8 | 0.89[a] |
| Ethnicity, (%) | | | 0.39[b] |
| Caucasian/White | 42 | 36 | |
| Black | 8 | 3.5 | |
| East Asian | 15 | 11 | |
| Middle Eastern | 8 | 3.5 | |
| Other | 27 | 46 | |
| Indication, (%) | | | 0.46[c] |
| Elective | 90 | 95 | |
| Medically Indicated | 10 | 5 | |
| Clamp, (%) | | | 0.83[c] |
| Gomco | 65 | 68 | |
| Mogen | 35 | 32 | |
| Surgeon Experience, (%) | | | 0.22[b] |
| Staff (medical) | 21 | 18 | |
| Staff (surgical) | 21 | 14 | |
| Fellow (2nd year) | 50 | 54 | |
| Fellow (1st year) | 7 | 14 | |
| Local Anesthetic Used, mean ± SD (mL) | | | |
| 0.5% Bupivacaine | 1.8 ± 0.6 | 2.4 ± 3.5 | 0.24[a] |
| 1% Lidocaine | 2.0 ± 0.6 | 2.0 ± 0.7 | 0.89[a] |

**CONCLUSIONS**

2OCA significantly reduced bleeding compared with standard closure. Moreover, these findings suggest that if using a Gomco clamp, 2OCA should be considered to minimize bleeding risk. These interim findings support 2OCA as a safe and effective hemostatic alternative, with final results forthcoming upon study completion.

*10:40 - 10:50*
**SN08-4** (NP)

# LONG-TERM LOWER URINARY TRACT DYSFUNCTION FOLLOWING CHILDHOOD URETEROCELE REPAIR IN COMPLEX DUPLICATED COLLECTING SYSTEMS

Lydia HERMANN [1], Morgan BLACK [2], Rosalia MISSERI [3], Martin KAEFER [3], Konrad SZYMANKSI [3], Richard RINK [3], Joshua ROTH [3], Kirstan MELDRUM [3], Benjamin WHITTAM [3], Nik BATRA [3], Mark CAIN [3] and Pankaj P. DANGLE [3]
*1) Indiana University School of Medicine, Medical Student, Indianapolis, USA - 2) Indiana University School of Medicine, Urology Resident, PGY2, Indianapolis, USA - 3) Indiana University School of Medicine, Pediatric Urology, Indianapolis, USA*

**PURPOSE**

While ureteroceles are well-described in infancy, long-term bladder function outcomes remain limited. In a previous study, our institution observed an increased incidence of lower urinary tract dysfunction (LUTD) among school-aged children (41%). We aimed to describe persistent or new-onset lower urinary tract symptoms (LUTS) during adolescence.

**MATERIAL AND METHODS**

We retrospectively reviewed for children with ureterocele treated at our institution between 1993 and 2007. Inclusion criteria were presentation before five years old, duplex collecting system with ureterocele, and surgical correction. Charts were assessed for LUTS occurring after age five, defined by the 2015 International Children's Continence Society, and evaluated during puberty according to National Institute of Child Health and Human Development criteria. Fisher's exact test was used for univariate analysis.

**RESULTS**

Forty eligible patients (29, 73% female) were followed to a median 13.3 years old (IQR 5.8-16.8). Thirty-nine (98%) ureteroceles were unilateral—17 (43%) ectopic, 12 (30%) intravesical, and 11 (27%) cecoureterocele. Twenty-two (55%) were diagnosed prenatally with ultrasound. Eighteen (45%) presented postnatally with 17 (94%) diagnosed after urinary tract infections (median 8.6 months old; IQR 2.7-30.3). Median age at first surgery was 10.9 weeks (IQR 4.8-40.2), independent of surgical type. Thirty (75%) had initial puncture/incision (median 8.32 weeks; IQR 4.0-25.6). Of these, twenty-four (80%) had subsequent ureterocele excision and reimplantation (median 2.3 years old; IQR 1.8-4.2). Twenty-one (53%) patients developed new-onset LUTS after surgery. Symptoms appeared a median 6.8 years (IQR 5.6–9.0) after initial surgery, independent of surgical type. Twenty (95%) required intervention—18 (90%) behavioral modification, 7 (35%) medication, and 6 (30%) pelvic floor therapy. Two (10%) required bulking injections for refractory stress incontinence. Eleven (52%) of the 21 patients developed new-onset LUTS during childhood (median 6.63 years old; IQR 5.69-7.09), with 4 (36%) persisting into puberty. Notably, 8 (38%) female patients developed new LUTS around puberty (median 9.9 years old; IQR 9.1-10.4). Their most common symptom was daytime incontinence (5, 63%), followed by urgency (4, 50%) and decreased frequency (4, 50%). Cecoureterocele was a significant risk factor for new-onset LUTS during puberty (p=.025).

**CONCLUSIONS**

LUTS is common following childhood surgery for ureterocele with renal duplication. New-onset LUTS may occur around puberty—with incontinence being the most common. Those with cecoureterocele appear to be at highest risk.

# SN09: MISCELLANEOUS 3

*Moderators: Angela Dower (UK), Bieke Samijn (BE)*

**ESPU-Nurses Meeting on Friday 19, June 2026, 10:50 - 12:40**

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*11:50 - 12:00*
**SN09-1** (NP)

## STIGMA-REDUCTION GROUP FOR CHILDREN AND YOUNG PEOPLE BORN WITH COMPLEX UROLOGICAL ANOMALIES

Georgia SETCHELL [1], Emily GOLDING [2], Imran MUSHTAQ [3], Navroop JOHAL [3], Karen RYAN [3] and Kristina SOON [4]
*1) Anglia Ruskin University, Psychology, London, UNITED KINGDOM - 2) University of Surrey, Clinical Psychology, Guildford, UNITED KINGDOM - 3) Great Ormond Street Hospital for Children NHS Foundation Trust, Urology, London, UNITED KINGDOM - 4) Great Ormond Street Hospital for Children NHS Foundation Trust, Psychological and Mental Health Services, London, UNITED KINGDOM*

**PURPOSE**

Children and young people with complex urological anomalies are known to experience significant psychological and social challenges (Dellenmark-Blom et al, Qual Life Res 2019; 28:1389-1412).

Stigma is known to predict later psychological and social difficulties as well as disengagement from medical care in young people with long-term medical conditions (Rueda et al, BMJ Open 2016;6) resulting in poorer physical and mental health outcomes.

One-off, one-hour long groups for age-matched patients and separately for their parents were run as part of a specialist multi-disciplinary clinic for paediatric bladder exstrophy-epispadias complex, cloacal exstrophy and hypospadias which aimed to address feelings of isolation and devaluation due to their urological condition and discomfort in talking openly about their illness-related experiences.

**MATERIAL AND METHODS**

Participants completed a five-item survey with likest scale responses from 1(poor) to 5(excellent) based on the Group Session Rating Scale (Quirk et al, Coun Psychother Res 2013; 13:194-200) as well as open-ended questions about their experience of the group.

Participants were also asked to contribute to a "Book of Wisdom" in which they were asked to write their advice for patients/parents who were unable to attend or who were early in their experience of urological anomalies.

Fifty of 70 patient attenders completed surveys of whom 41 were male and 29 female with a mean age of 13-0 years. Thirteen parents provided feedback about the parent group

**RESULTS**

Mean ratings on all patient and parent scales ranged between 4.2 (SD=.76) and 4.7 (SD=.38). Thematic analysis of qualitative feedback about group experience revealed common themes of feeling a reduction in sense of isolation and defectiveness, feeling heard and learning from others' experiences. Most common pieces of advice

in the Books of Wisdom were to feel proud about themselves and their illness journey, to know that they are not alone and to work collaboratively with their healthcare providers. Also of note was the high level of positive experience from male and adolescent patients; patients typically difficult to engage in psychological care.

**CONCLUSIONS**

Preliminary results indicated that the groups were well-received and addressed stigma-related issues, as expected, providing support for continuation of service. Further research will aim to measure stigma change directly as well as addressing low attendance in patients with minoritized ethnicities.

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*12:00 - 12:10*
**SN09-2** (NP)

## EVALUATING BODY MASS INDEX, BLADDER HYPERMOBILITY AND RESPONSE TO PHYSIOTHERAPY IN GIRLS WITH IDIOPATHIC STRESS URINARY INCONTINENCE

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**PURPOSE**

Idiopathic stress urinary incontinence (ISUI) is a rare yet distressing condition affecting adolescent girls, influenced by various factors that may impact its severity and management. This study aims to assess the associations between Body Mass Index (BMI), bladder hypermobility, and the response to physiotherapy within this population.

**MATERIAL AND METHODS**

We conducted a retrospective review of clinical and urodynamic data from 20 girls diagnosed with ISUI. BMI was recorded, and percentiles were assessed using World Health Organization charts. The response to physiotherapy was graded utilizing the Patient's Global Impression of Improvement (PGI-I) scale, with scores ranging from 1 (Very Much Better) to 7 (Very Much Worse). Video urodynamics were performed in 14 participants. Bladder hypermobility was diagnosed if the bladder neck at rest was located below the inferior border of the pubic symphysis during end-fill while standing.

**RESULTS**

The median presenting age was 12 years (range: 10 to 15 years). The median BMI percentile among the girls was the 80th (range: 12th to 99th percentiles). Eight out of 20 patients reported a PGI-I score of 1 to 3 (indicating improvement), with a median BMI at the 80th percentile. Conversely, 12 girls reported scores greater than 4 (indicating no improvement or worsening), also with a median BMI of the 80th percentile. Notably, 12 girls exhibited significant bladder hypermobility, while intrinsic sphincter deficiency was evident in 2 patients.

**CONCLUSIONS**

Our findings suggest that bladder hypermobility is the predominant mechanism underlying of ISUI. The typically elevated BMI among these girls may exacerbate the condition, as less than half of the participants demonstrated a positive response to physiotherapy.

*12:10 - 12:20*
**SN09-3** (NP)

## ★ ILEAL CHIMNEY: FROM ASSESSMENT TO AFTERCARE

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**PURPOSE**

Ileal chimney or Ileovesicostomy (IV) surgery was implemented within our service as an alternative intervention to support safe bladder pressures and facilitate effective bladder emptying in cases where exisiting bladder management strategies were insufficient and ileocystoplasty, vesicostomy, and Mitrofanoff procedures were deemed inappropriate for the patient.

**MATERIAL AND METHODS**

Patients requiring surgical bladder management were reviewed in our multidisciplinary team meeting, and surgical options such as ileocystoplasty, ileal chimney, Mitrofanoff and vesicostomy were considered. Decision making was guided by a comprehensive assessment of diagnosis, previous and planned treatments or surgeries, social context, development and cognitive status, age, and prior/anticipated complications.

Preoperative preparartion involved a surgical consultation to explore available options, followed by one or two counselling sessions with the clinical nurse specialist/ advanced nurse practitioner team. Theses sessions focused on stoma care, adapting daily activities to life with a stoma, and identifying the optimal stoma site on the abdomen.

Before surgery, patients were assessed by an adult stoma care nurse to confirm stoma position, mark the patient, and provide appropriate appliances. Postoperatively, patients received daily reviews to support stoma care education and promote independence.

**RESULTS**

5 patients over 2 year (2024-2025). 3 Boys. Age range 6-16rys.

Inital postopertive challenges included stoma bag leaks in several patients, typically due to infrequent drainage or stoma bag folding, leading to urine pooling aroun the stoma site. These issues were effectively resolved through education on regular bag drainage and proper bag positioning.

One patient experienced urethral leakage following surgery and required surgical revision of the stoma.

Two patients presented with mucus-related complications and were successfully taught bladder washout to manage symptoms.

**CONCLUSIONS**

IV formation constitutes a pragmatic surgical alternative for patients in whom alternative continent surgical bladder management is unsuitable. Rigorous preoperative preparation is imperative to ensure that both the patient and their family acquire a comprehesive postoperative stoma management. Patient education should

underscore the necessity of consistent stoma bag empyting to mitigate the risk of leakage, and emphasise the avoidance of bag folding, which predisposes to urine pooling and subsequent peristomal skin complications.

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*12:20 - 12:30*
**SN09-4** (NP)

## ★ DELIVERING CATHETER TRAINING TO SCHOOLS THROUGH A VIRTUAL-HYBRID MODEL: IMPROVING ACCESS & EFFICIENCY

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**PURPOSE**

Performing catheterisation in school settings is essential for many children with neurogenic or functional bladder conditions, yet school staff often have limited training opportunities. Traditional in-person teaching provided by tertiary care service CNS, can be resource-intensive particularly for centres covering a large geographical area. In order to overcome this limitation, we developed a hybrid virtual and in person catheter training model to support schools while maintaining safety and confidence in catheter care. We are presenting our model and evaluate its outcome and impact on our service.

**MATERIAL AND METHODS**

We implemented a structured 30-minute virtual training session delivered by the paediatric urology nursing team to school staff. This was supported by a standardised catheterisation booklet sent in advance, outlining the indication for catheterisation, required equipment, a step-by-step explanation of the procedure, and common troubleshooting guidance. Following a single virtual session, parents or carers were asked to attend the school to demonstrate the child-specific practical technique. Contact details for the nursing team were also provided to ensure staff could seek further advice or clarification if needed.

**RESULTS**

Since the end of 2023, we have successfully trained 35 nurseries and schools in paediatric catheterisation using the Hybrid-Teaching model. No patients' concern or complication have occurred following the training.

By adapting our practice, the team has saved roughly 122 hours which was re-allocated within our team to hold additional clinics or review ward patients. Across the review period so far, virtual training sessions accounted for a total of 17.5 hours, compared with 140 hours required for equivalent face-to-face delivery. Based on an estimated cost of £160 per half day for a top Band 7 nurse (including all employer contributions and Inner London HCA), the change in delivery has generated an approximate saving of £4,880 per year.

**CONCLUSIONS**

The hybrid catheter-teaching model is a valid and safe method to deliver training for school personnel remotely reducing cost and time required from the tertiary service nurse team. It can be a solution for services with high demand and allows supporting large geographical areas.

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*12:30 - 12:40*
**SN09-5** (NP)

# UNREPORTED COMPLICATIONS IN THE USE OF PELVIC ELECTROTHERAPY IN PEDIATRICS.

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**PURPOSE**

The use of electrotherapy is increasingly common in pediatrics to treat urinary dysfunction, intestinal dysfunction, and pain. Its benefits are well documented, but there is limited information regarding its adverse effects. The aim of this study is to describe the complications observed.

**MATERIAL AND METHODS**

We conducted a retrospective review of all patients treated with sacral electrotherapy (TENS-S), tibial electrotherapy (T-TENS), and suprapubic electrotherapy (SS-TENS) during the 2023-2024 period. Demographic data, diagnoses, and adverse effects were analyzed. The therapy was applied either in the hospital or at home. Complications were classified according to the CTCAE (Common Terminology Criteria for Adverse Events).

**RESULTS**

We included 175 patients (mean age 12.3 years). Patients were categorized based on the indication for therapy: pelvic, perineal, or genital pain (7 patients); intestinal dysfunction (32 patients); and bladder dysfunction (136 patients). Adverse effects were reported in 12.5% of patients with intestinal dysfunction (n=4, urinary urgency and incontinence, CTCAE 1-2), in 10.3% of those with bladder dysfunction (n=14, fecal urgency, CTCAE 1-2), and in 14% of children treated for pain (n=1, fecal urgency, CTCAE 1-2). Additionally, 3 patients developed dermatitis at the site of transcutaneous patch application (CTCAE 1). No severe adverse effects were recorded. No patient had to discontinue TENS therapy due to adverse events. Among the total number of patients with fecal urgency (15), 3 presented associated fecal incontinence. In 2 of these cases, symptoms resolved by reducing the frequency of TENS sessions. In the third case, in addition to reducing TENS frequency (3 times per week), transanal irrigations were initiated before device use. Urinary urgency was not associated with incontinence and was managed with standard urotherapy guidelines.

**CONCLUSIONS**

Despite the advantages of TENS, it is essential to recognize and monitor its potential adverse effects. TENS applied to one system may affect another. Understanding these effects is crucial to provide comprehensive management and adequately inform patients about the benefits and risks of the therapy. Further studies are needed to optimize the safety and effectiveness of TENS.